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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,913	05/01/2006	Eiji Hayashi	Q94726	6881

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EXAMINER	
PILKINGTON, JAMES	
ART UNIT	PAPER NUMBER
3656	

MAIL DATE	DELIVERY MODE
01/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/577,913	HAYASHI ET AL.	
	Examiner	Art Unit	
	JAMES PILKINGTON	3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-11* is/are pending in the application.

4a) Of the above claim(s) *5,6,8 and 9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,7,10 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/10/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

The RCE filed on 12/05/08 is acceptable and an action on the RCE follows.

Claim Objections

1. Claims 1 and 4 are objected to because of the following informalities: Clm 1, line 5, insert - -a- - between "on" and "side" and Clm 4, line 1 remove "5" which is located between "the" and "holding". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re clm 2, Claim 1 recites that the holding member is made by a drawing process and then dependent claim 2 states that it is made by metal press processing. Which process is it? It appears that Claim 2 is attempting to broaden the limitations of Claim 1 by claiming a different process. It is also noted that the drawing and pressing processing which is being claimed is a product-by-process limitation which does not further limit the structure of an apparatus claim, see MPEP 2113.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2, 4, 7, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galonska, USP 3,145,580, in view of Ebina, USP 6,089,117.

Galonska discloses a ball screw device comprising:

- a screw shaft (10) comprising a spiral first screw groove (see Figure 1) on an outer periphery thereof;
- a nut screw (12) engaged with the screw shaft (10), comprising:
  - a spiral second screw groove (C2/L3-5) formed on an inner periphery thereof corresponding to the first screw groove
  - a pair of circulating holes (C2/L8-11) on a side surface thereof;
- a plurality of rolling elements (18) rollably mounted in a load region formed between the first and second screw grooves;
- a circulating member (14, 16) comprising:
  - a rolling-element circulating path (inside of 14 or 16) formed therein, which introduces the rolling element rolling in the load region from one of the pair of circulating holes to an outside of the nut, and also returns the rolling element to the load region via other of the pair of circulating holes (see Figure 1);
  - both ends fitted to the pair of circulating holes (C2/L8-11);
- a metallic holding member (20) for fixing the circulating member (14, 16) onto the nut (12), the holding member including a cap portion (24, 26, see

Figure 4) which surrounds only a portion of a circumference of the circulating member (14, 16) and a flange (outer perimeter of 20) on which a hole (for 22) is provided

- wherein the circulating member (14, 16) is substantially U-shaped tube having bending portions (portions extending into the circulating holes C2/L8-14) on both ends thereof;
- wherein the holding member (20) substantially covers a main body of the circulation member (14, 16) including the bending portions thereof;
- wherein a flat surface (30, 32) is provided on a cylindrical surface of the nut (12); and
- wherein a screw (22) is inserted through the hole of the flange so as to fix the holding member (20) to the flat surface of the nut (the screw is attached to a curved portion of the nut however this same screw also secures the flat surface of the holding member to the flat surface of the nut since when the screw is inserted the two components become connected and thus the screw fixes the flat surfaces as well as the curved surfaces together)
- wherein the holding member (20) covers 60 % or more of a part of the circulating member (14, 16), which is exposed from the side surface of the nut (12)
- wherein the circulating member (14, 16) comprises legs (part extending into the holes C2/L8-14) which fit in the circulating holes of the nut at both

ends thereof, and wherein a path for scooping up the rolling elements and a path for returning the rolling elements are formed in the legs so as to be inclined relative to an outer periphery of the leg, respectively (C2/L8-18)

- wherein the cap portion (20) extends in a longitudinal direction (see Figure 1), and both longitudinal ends of the cap portion have a semi-spherical shape so as to correspond to the bending portion of the circulation member (curved ends of 24 and 26 are semi-spherical shapes)
- wherein a clearance is formed between a longitudinal end of the cap portion and the bending portion of the circulating member (there is a clearance between a portion of the cap and the circulating members all around the circulating member in the area of 44)

Galonska does not disclose that the circulating members are made out of resin.

Ebina teaches that circulating members (16) can be made out of resin (C15/L12-15).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Galonska and provide circulating member made out of resin, as taught by Ebina, since substituting one circulating member for another made out of resin would yield the predictable result of reducing the weight of the nut assembly, reducing the friction between the rollers and the circulating members and reducing manufacturing costs.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 2, 4, 7, 10 and 11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday - Friday 7-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571)272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/
Examiner, Art Unit 3656
1/8/09

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656